Welcome to the Biweekly Restoration Information Update Page. This web site

- Provides current information on wetland and river corridor restoration projects
- Recognizes outstanding restoration projects
- Provides a forum for information sharing

We welcome the submission of articles and announcements related to your restoration project. Just send your write-up to EPA's contractor at restorationupdate@tetratech-ffx.com or mail it to Kathryn Phillips, Biweekly Restoration Update Coordinator, Tetra Tech, Inc., 10306 Eaton Place, Suite 340, Fairfax, VA 22030. We will carefully consider your submission for inclusion in a future update. If your submission is selected, please note that it might be edited for length or style before being posted. Because this web site is meant to be a public forum on restoration information, we cannot post any information that is copyrighted or information that serves or has the appearance to serve as advocating or lobbying for any political, business, or commercial purposes.

Contents

- **Feature Article** - Our feature article recognizes outstanding restoration projects or programs.
- **Community-Based Restoration Partnerships** - This section highlights innovative community-based partnerships working to restore wetlands and river corridors.
- **Funding for Restoration Projects** - Here you'll find information pertaining to grants and other funding sources available to local watershed groups and other grassroots community organizations to implement restoration projects.
- **News and Announcements** - This section includes up-to-date information on regulatory issues affecting restoration, conference and workshop announcements, and other newsworthy tidbits.
- **Restoration-Related Web Sites** - Check out other groups on the Web that are helping in the effort to restore wetlands and river corridors.
- **Information Resources** - Books, journals, fact sheets, videos, and other information resources to aid you in your restoration project are provided here.
- **Ask a Restoration Question** - Post your restoration related question. Answers will be provided by the EPA and Bi-Weekly readers.

Feature Article

Cooperation Is Key to Restoring Indian River Wetlands

Florida's marshes and wetlands have not always been regarded as the valuable habitat and water quality resources they are known to be today. In the 1950s and 1960s many wetlands were seen as little more than useless mosquito breeding grounds that couldn't be farmed. To increase farmable land and control the mosquitoes, property owners drained the marshes and built dikes to reclaim large portions of Florida's wetland areas. For instance, in the 156-mile-long Indian River Lagoon on the state's east coast, these alterations severed the link between the lagoon's open water and almost 75 percent (more than 40,000 acres) of the original wetlands.

Times have changed. Since 1987 Florida has worked to protect its wetlands, lagoons, and salt marshes and reverse decades of unintentional negative impacts by passing the state's Surface Water Improvement and Management Act and creating the Indian River Lagoon National Estuary Program. These programs encourage the participation of community and other stakeholders in wetland restoration processes. Partners in the Indian River Lagoon Restoration effort include local and federal governments, community and civic groups, and local and national nonprofit

organizations. These partners are working together to reconnect acres of marshland, remove nonnative plants, restore habitat, reduce the amount of pollution entering the marshland, and decrerg the sediment deposited in the lagoon from stormwater discharges.
The governments of many counties, including Volusia, Brevard, Indian River, St. Lucie, and Martin, have also implemented restoration projects. As of May 2001, they had installed culverts and water control structures that reconnected more than 27,700 acres of wetlands to Indian River Lagoon, while still allowing for the management of mosquito populations. They have also installed local and regional storm water treatment systems in the Indian River Lagoon watershed. Since 1989 those systems have prevented more than 800,000 pounds of sediment from entering the lagoon.
The ongoing restoration efforts throughout the Indian River Lagoon drainage area have made a difference. Monitoring programs have shown an increased diversity of plants, fish, and wildlife in much of the wetland acreage now reconnected to the lagoon. For example, while an isolated wetland might contain only 6 to 10 species of fish, state personnel have observed as many as 90 fish species in a reconnected wetland.
A combination of federal and local funding has made the restoration possible. The South Florida Water Management District provided more than $10 million in storm water treatment projects. In addition, USEPA's nonpoint source grant program, the Florida Department of Environmental Protection, and local matching dollars will provide a total of more than $11 million for wetland restoration projects. For more information on the Indian River Lagoon program, visit the St. John's River Water Management District web site at http://sjr.state.fl.us or contact Ed Garland at (321) 676-6616 or e-mail ed_garland@district.sjrwmd.state.fl.us.
If you'd like your project to appear as our next Featured Article, e-mail a short description to restorationupdate@tetratech-ffx.com.

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Community-Based Restoration Partnerships

Five-Star Project Recreates Oyster Bays Near Ocean City, Maryland
Assateague Coastal Trust, Maryland Department of Natural Resources, University of Maryland, and community volunteers, supported by EPA Five-Star Restoration Grant Program funding, are working together to create a 1-acre oyster bed in the Maryland Coastal Bays watershed. They prepared the oyster bed by spreading 1,200 cubic yards of disease-free oyster shells at a site chosen by the Maryland Department of Natural Resources. Volunteers learned how to grow, transplant, and monitor oysters in training workshops led by university professors. Currently, the volunteer "oyster gardeners" are growing oysters on floating mats for transplant to the oyster bed. Once mature, the oysters will be transplanted to populate the oyster bed, where they will benefit the ecosystem by filtering water and improving water quality. For additional information, contact Brian Ocepek at the National Fish and Wildlife Foundation; phone: (202) 857-0166.
Christmas Trees Help Restore Wetlands
Louisiana's Christmas trees now serve a dual purpose--bringing joy at Christmas and bringing new life back to wetlands. In 1990 the Louisiana Department of Natural Resources, Coastal Restoration Division, officially launched its DNR/CRD Parish Coastal Wetlands Restoration Program, otherwise known as the Christmas Tree Program. The DNR/CRD funds and oversees the program in each participating parish. After Christmas, the DNR/CRD and coastal zone parishes collect the live trees and construct brush fences in coastal marshes and interior ponds with water depths of less than 2 feet. DNR/CRD staff and parish volunteers build fenced enclosures out of wood and fill them with clean, discarded Christmas trees. After the trees are placed in the enclosure, the enclosure is roped off to prevent the trees from floating away. The brush fences reduce wave energy and trap sediment while allowing the movement of water in and out of the marsh areas. The brush fences reduce marsh erosion, thus enhancing water clarity, stimulating the growth of submerged aquatic vegetation, and providing habitat areas for many fish and crustacean species. Since the program's inception, the coastal zone parishes have built

about 7 miles of brush fences using more than 1,018,000 Christmas trees, restoring some 250 acres of wetlands in the process.

The Christmas Tree Program has enjoyed widespread success because of local support. The coastal parishes--Calcasieu, Cameron, Iberia, Jefferson, Lafourche, Orleans, St. Bernard, St. Charles, St. John the Baptist, St. Martin, St. Mary, St. Tammany and Vermilion--provide volunteers, who locate sites for brush fences and coordinate tree collection. The program also relies heavily on the support of the Louisiana Air National Guard and several major oil companies, which donate helicopters and barges to store and transport the trees.

The Christmas Tree Program, through advertisement and publicity, has raised community awareness about the problems of pollution and wetland loss along Louisiana's coast and nationwide. Many newspaper articles and radio and television reports have highlighted the program. Thousands of Louisiana citizens learned of the program and donated trees so they could do their part to help restore the marshes. Other localities across the nation, including Chesapeake Bay in Maryland, Staten Island in New York, and Weeks Bay in Alabama, learned of Louisiana's program and have also constructed Christmas tree fences. For more information about the Christmas Tree Program, contact Kenneth Bahlinger at the Louisiana Department of Natural Resources, P.O. Box 94396, Baton Rouge, LA 70804-9396. Phone: (225) 342-7362. Web site: http://www.savelawetlands.org/site/Xmas/xmas3.html.

Restored Wetlands Should Improve Shellfish Health and Offer Unique Classroom

In 2000 the Carteret-Craven Electric Cooperative and its partners began restoring 4.4 acres of cyprus-gum wetlands to capture and retain storm water discharges in the Jumping Run Creek watershed, located in Carteret County on the southeastern coast of North Carolina. For years, storm water runoff entering the creek had adversely affected shellfish-producing waters at the creek's outlet in Bogue Sound. The restoration project under way includes removing the drainage ditches that were dug into the wetlands along the creek in the past. Project leaders hope the wetlands, once restored, will again reduce nutrient and bacteria levels in the water and decrease peak freshwater flows into the estuarine waters. Project leaders plan to monitor the shellfish areas and the project site to note any water quality improvements.

In addition to controlling runoff, the restoration project will also serve as a natural classroom where school groups can study the flora and fauna associated with a wetland. Carteret-Craven Electric Cooperative is building boardwalks and viewing areas that will be accessible to persons with disabilities. Community and school groups have begun donating time and effort to improve the wetland habitat: the Carteret County Wildlife Club has started to build bluebird houses (many of which have already attracted birds), Carteret County Occupational High School students have built bat houses, and Cape Lookout High School students have planted butterfly gardens.

The project was truly a partnership effort. To ensure that the restored wetland would be protected, the Cooperative donated the property to the North Carolina Wetlands Restoration Program, an innovative, nonregulatory program established by North Carolina's General Assembly in 1996 to restore wetlands, streams, and riparian areas throughout the state. The Cooperative relied on the assistance of many other partners during the restoration process, including the Clean Water Management Trust Fund; Duke Marine Lab; NC State University Cooperative Extension Service, School of Design, and Biological and Agricultural Engineering; U.S. Environmental Protection Agency Section 319 Program; NC Sea Grant; and the NC Department of Environment, Natural Resources Shellfish Sanitation Division. The project will be completed at an estimated cost of $100,000. For more information on this project, visit the web site http://h2o.enr.state.nc.us/wrp/project/jumpcrk.htm.

If you are part of an innovative community-based partnership that is working to restore river corridors or wetlands, we'd like to hear from you. Please send a short description of your partnership to restorationupdate@tetratech-ffx.com.

Achieving Restoration Results

Lakeshore Riparian Restoration Is Taking Root in the Flathead Basin

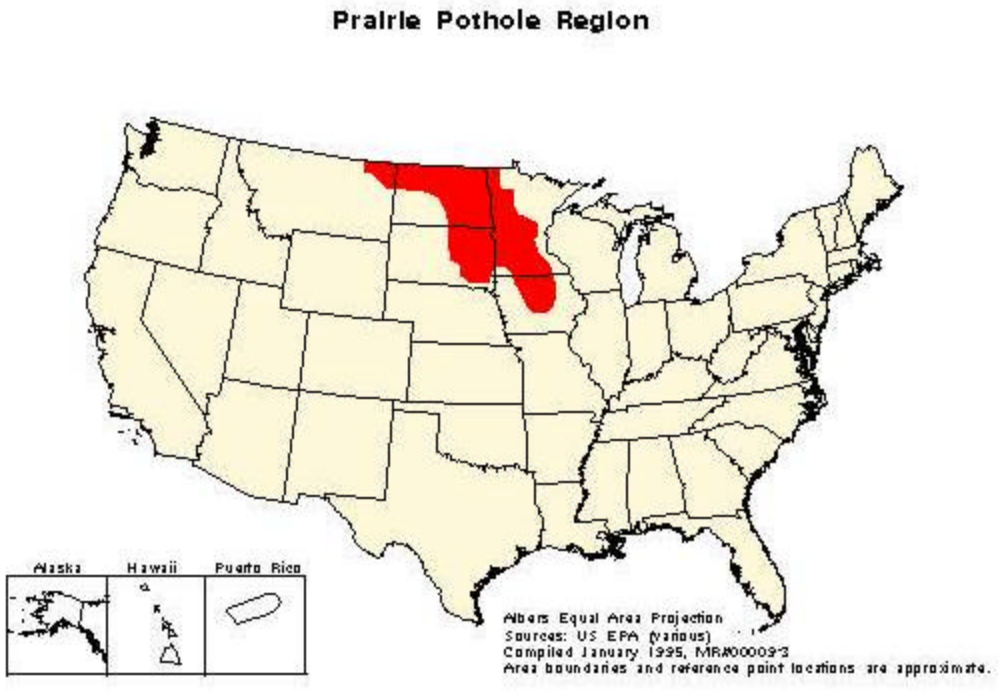
Montana's Flathead Lake is getting some much-needed restoration attention. The Flathead Lake basin is in northwestern Montana and southeastern British Columbia and encompasses approximately 6 million acres. Flathead Lake is the basin's major catchment; in fact, with a full pool surface area of 126,000 acres, it is the largest natural body of fresh water in the United States west of the Mississippi River. The water quality in Flathead Lake has been declining because of nutrient and sediment inputs from the watershed and along the lake itself. In 1998 the state of Montana developed a TMDL to address nutrients in the lake. To meet the goals of the TMDL voluntarily, the Flathead Basin Commission (FBC), a nonregulatory organization created by the Montana Legislature to monitor and protect the basin's water quality, initiated and is sponsoring the Voluntary Nutrient Reduction Strategy (VNRS) program. The goal of VNRS is to demonstrate how vegetative buffer zones and bioengineering products can help achieve and maintain the TMDL target water quality levels.

In the spring of 2000, the FBC received an $86,000 section 319 grant to support five VNRS demonstration sites, 3 residential areas, a feedlot and a fishing access area. The FBC hired a contractor, Bitterroot Restoration, Inc., to complete the work. In fall 2000 Bitterroot Restoration completed restoration of three sites--two residential areas and a fishing access area. A buffer was created at each site to intercept runoff and capture nutrients and sediment. The buffers were planted with native plants such as red-osier dogwood, common snowberry, and blue elderberry. In addition to the plants, the buffer at the residential sites incorporated landscape edging and a top dressing of bark mulch to improve the aesthetics. To address the erosion problem along the lakeshore, Bitterroot Restoration placed prevegetated with various native plants) coir logs in the substrate, leaving the top 2 inches of logs exposed above the mean lake level.

Now that the restoration of these three sites is complete, Bitterroot Restoration will monitor plant survival, growth rate, and density. This information, along with any relevant water quality data, will be imported into a geographic information system for further analysis and mapping. For more information on these Flathead Lake restoration projects, see the May/June 2001 issue of *Land and Water* or contact Mark Rohweder, Bitterroot Restoration, Inc., 445 Quast Lane, Corvallis, MT 59828; phone: (406) 961-4991; Web site: http://www.bitterrootrestoration.com.

Program Increases the Productivity of North Dakota's Prairie Pothole Region

North Dakota, with only 10 percent of the nation's available nesting habitat, is the top duck producing state in the Prairie Pothole region of the country (see map). In an effort to increase wildfowl density on private land, the U.S. Fish and Wildlife service initiated the North Dakota Partners for Fish and Wildlife Program. This program provides financial incentives and technical assistance to landowners who want to improve their land for wildlife. In exchange, landowners agree to maintain the land for wildlife for a 10- to 30-year contract period. The program will pay to remove drainage ditches and restore prairie wetlands. The U.S. Fish and Wildlife Service will also work with landowners to reduce the impact of agricultural practices on wildlife and establish grazing and predator management systems. Under the North Dakota Partners for Fish and Wildlife Program, landowners have restored more than 14,252 acres of wetlands in 2,437 basins. For more information on the Partners for Fish and Wildlife Program in North Dakota, contact Kevin Willis, 3425 Miriam Avenue, Bismarck, ND 58501. Phone: (701) 250-4418; e-mail: kevin_willis@fws.gov; or visit the Web site http://www.r6.fws.gov/pfw/nd/nd2.htm.



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Funding for Restoration Projects

Restore Our Southern Rivers

The U.S. Fish and Wildlife Service (FWS), USEPA, and U.S. Forest Service sponsor the Restore our Southern Rivers Program to support on-the-ground projects that restore and enhance riparian and riverine habitat in southeastern states. Qualified projects will benefit FWS lands or ecologically important private land. Projects should involve direct or indirect benefits to water quality, such as reduction in siltation, turbidity, nutrient levels, or environmental contaminants; demonstrate ecosystem-level approaches that complement other existing or planned restoration efforts in the watershed; and have a landowner outreach or public education component. Past grant awards have ranged from $10,000 to $200,000. Proposals must be submitted by August 20, 2001. For more information contact Joe DeVivo at (404) 679-7120 or visit the Web sitehttp://www.nfwf.org/programs/ROSR.htm.

Turner Foundation Grants

The Turner Foundation, Inc., is soliciting new grant proposals for the protection of rivers, lakes, wetlands, aquifers, oceans, and other water systems from contamination, degradation, and other abuses. Priorities include promoting the use of water for environmental purposes, restoring and protecting fish and wildlife habitat, preventing pollution, and protecting wetlands. Past grants have been awarded for between $10,000 and $100,000. Applications are due by September 15, 2001. For more information visit http://www.turnerfoundation.org/index.asp.

Washington State Grants for Control of Invasive Aquatic Plants

Washington State Department of Ecology's Water Quality Program provides funding for technical assistance, public education, and grants to help control aquatic weeds. Grant projects must address prevention or control of freshwater, invasive, nonnative aquatic plants. The types of activities funded include planning, education, monitoring, implementation, pilot/demonstration projects, surveillance, and mapping projects. Grant applications are accepted from October 1

through November 1 of each year during a formal application process. For more information contact Kathy Manel at the Washington State Department of Ecology, Water Quality Program, P.O. Box 47600, Olympia, WA 98504-7600. Phone: (360) 407-6562; e-mail: kham461@ecy.wa.gov.

New York Community Trust's Conservation and Environment Grant Program

The New York Community Trust Conservation and Environment Program funds national-level projects that promote watershed and wildlife habitat protection through conservation, management, and public education. Recently awarded conservation grants averaged $50,000. For more information on Conservation and Environment grants or for information on the application procedure, visit the Web site http://www.nyct-cfi.org/newsite/02_grantmaking/2.0_grantmakingindex.html.

Please send any news you have on funding mechanisms available to local community organizations to restorationupdate@tetratech-ffx.com.

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News and Announcements

Five-Star Grant Recipients Announced for FY2001

On June 25, 2001, the National Association of Counties, the National Fish and Wildlife Foundation, and the Wildlife Habitat Council announced the recipients of the 2001 Five-Star Restoration Program grants. Sixty community-based partnerships will receive between $3,500 and $20,000 each to support wetland and streamside restoration projects. On July 16, 2001, EPA Administrator Christine Todd Whitman led a round of applause for many of the winners at the National Association of Counties' Annual Conference in Philadelphia. She congratulated the recipients saying, "I would like to add my personal congratulations to the many voices cheering the Five-Star Grant award winners. They provide us all with a shining example of the New Environmentalism--one defined by widespread cooperation--that President Bush and I hope to foster between EPA and the rest of the country." A short description of the 60 projects funded this year can be found at http://www.epa.gov/owow/wetlands/restore/5star/01grants.html.

National Strategy to Restore Coastal Habitat Available for Comment

Restore America's Estuaries (RAE), the National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service, and NOAA's National Marine Fisheries Service are working with state and federal agencies, nonprofit organizations, scientists, and others to develop a strategy to restore the nation's estuaries and coastal habitats. This draft strategy, *National Strategy to Restore Coastal Habitat: Restoring America's Estuaries*, represents a comprehensive approach to maximize the benefits of habitat restoration projects and to improve coordination of federal and nonfederal coastal habitat restoration activities. RAE and NOAA are gathering comments and feedback on the draft National Strategy until August 31, 2001. For more information on the strategy, or to submit comments, visit the web site http://restoration.nos.noaa.gov/.

Chesapeake Regional Information Service Available Online

To better inform the public about efforts to restore the Chesapeake Bay and its watershed, the Alliance for the Chesapeake Bay launched a new web site called "AsktheBayExperts.org" on July 16, 2001. This interactive site connects the public to scientists and resource professionals working on Bay restoration activities. The site is designed for "One-stop shopping for anyone interested in the condition of the Bay," said Alliance for the Chesapeake Bay executive director David Bancroft. "We hope that every school, community group, watershed organization, and business will use the site to find out about the Bay and its plants and animals." The web site replaces the Chesapeake Regional Information Service's former toll-free telephone service. Citizens wishing to speak to a representative from the Alliance may telephone (717) 263-8825. For more information contact Deb Rudy at the Alliance for the Chesapeake Bay. Phone: (717) 263-8825.

Maryland Reaches--and Looks Beyond--Buffer Goal

On July 19, 2001, Governor Parris N. Glendening announced Maryland has reached its goal of restoring 600 miles of forested stream buffers in the Chesapeake Bay watershed and pledged to double the goal by planting another 600 miles of buffer. In 1996 the Chesapeake Bay Executive

Council set a region-wide goal of creating 2,010 miles of forest buffers by 2010. Maryland's pro-rated goal was 375 miles, but the state committed to the more ambitious goal of 600 miles. Maryland has already established 577 miles, with another 23 miles under contract to be planted by next spring--8 years ahead of schedule. "We are making important progress in our efforts to improve water quality and protect the bay," said Governor Glendening. "To continue this momentum, we are setting another aggressive and ambitious goal that will ensure a healthier bay and continue Maryland's environmental leadership. When these buffers mature, they will protect the Bay from hundreds of thousands of pounds of pollutants and help improve the quality of life for all Marylanders."

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Upcoming Conferences and Events:

NEW LISTINGS:

Short Course: Process-Based Natural Channel Design

August 13-17, 2001, Bozeman, Montana

November 5-9, 2001, Vancouver, Washington

During the 4½ days of instruction and field review, participants will learn about innovative stream and river restoration approaches through integration of design principles from natural science and engineering disciplines. The design approach includes insight, principles, theory, and practical experience from the following disciplines: fisheries biology, fluvial geomorphology, hydraulic engineering, hydrology, plant ecology, and construction management. The course is being held by Inter-Fluve, an Applied River and Restoration firm.

For more information or to register, call Lisa at Inter-Fluve's Bozeman office at (406) 586-6926. The course costs $1,295, which includes 4½ days of classroom instruction, a field trip, and all course materials. For more details, see http://www.interfluve.com/courses.htm.

Wetlands Engineering & River Restoration Conference 2001

August 27-31, 2001

Reno, Nevada

As the environmental contributions of functioning wetlands and riparian systems are increasingly recognized, local, state, and federal government agencies face ever-increasing demand to restore damaged systems. Engineers and scientists are already working closely together to develop successful restoration designs for these complex ecosystems. This conference will provide the opportunity for professionals in restoration fields to learn from others and develop interdisciplinary approaches to wetland restoration. For more information, visit the web site http://www.asce.org/conferences/wetlands2001/home.html [Link no longer available, October 2003].

11th International Conference on Aquatic Invasive Species

October 1-4, 2001

Alexandria, Virginia

The U.S. Army Engineer Research and Development Center is the host sponsor of the 11th International Conference on Aquatic Invasive Species. This 4-day conference will include the review of accumulated scientific knowledge; presentation of the latest field research; introduction of new technological developments for prevention, monitoring, control, and mitigation; and discussion of policy, legislation, public education, and outreach initiatives related to aquatic invasive species. For more information on the conference, visit the web site http://www.aquatic-invasive-species-conference.org or e-mail the conference administrator at profedge@renc.igs.net.

Wetland Delineation Workshop

October 15-18, 2001

Leesburg, Florida

This 4-day course hosted by the Florida Surveying and Mapping Society and the U.S. Army Corps of Engineers addresses the wetland delineation procedure, as defined by Florida State laws, used by the Florida Department of Environmental Protection and Florida's water management districts. For more information visit http://www.fsms.org/education.htm or contact Tamara Shaifer at fsms.edu@fsms.org.

PREVIOUS LISTINGS:

Wetlands Remediation: The Second International Conference
September 5-6, 2001
Burlington, Vermont
Batelle Memorial Institute is sponsoring the Second International Conference on Wetlands and Remediation. The focus will be on topics of common concern related to the cleanup of contaminated wetlands and the treatment of contaminated groundwater, surface waters, and wastewater using natural and constructed wetlands. For more information, visit the Web site http://www.battelle.org/environment/er/conferences/wetlandscon/default.htm or contact the conference office by e-mail: wetlandsconf@battelle.org or by phone: (614) 424-7604.

The Society for Ecological Restoration 13th Annual International Conference: Restoration Without Borders
October 4-6, 2001
Niagara Falls, Ontario, Canada
The Society for Ecological Restoration will host its annual conference on restoration issues that have worldwide applications. Topics addressed in the conference will include restoration and recovery in the Great Lakes, restoration issues on private and public lands, partnerships in restoration, invasive species control, and river and riparian restoration. For more information contact ser201@niagarac.on.ca or call (905) 641-2252 x4473 and ask for Al.

To post your restoration news and announcements, please send information to restorationupdate@tetratech-ffx.com.

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Restoration-Related Web Sites

http://www.natureserve.org/
Natural Heritage Programs in the United States. Natural Heritage Societies seek to inventory, protect, and enhance nongame wildlife, native plants, and significant natural communities in the United States. This page provides links to societies in each of the 50 states. Chapters process data requests on native plant and animal species in a variety of ecosystems. *This site would be helpful for people seeking information on native plant species in their area for restoration projects.*

http://www.savebay.org
Save Narragansett Bay. This community-based environmental organization seeks to improve the environmental quality of Narragansett Bay through watershed restoration and pollution prevention. The organization focuses its work on three areas: watching over the activities of citizens that degrade the environmental quality of the bay, leading the community by initiating programs and activities that increase the environmental awareness and knowledge of the public, and initiating actions that will directly clean up the bay and restore its wetlands. *This site is a good example of a community-based initiative and provides many new and different ways to raise restoration awareness.*

http://www.metrokc.gov/environ.htm
Surface Water Engineering & Environmental Services (SWEES). The SWEES program works to improve storm water drainage, water quality, and aquatic habitat in ways that balance the needs of people with the ongoing health of the environment in which they live. Information is available on several SWEES programs, including the Capital Improvement Program that works with large restoration projects, the Small Habitat Restoration Program, the Native Plant Salvage Program, and the Neighborhood Drainage Assistance Program. *This site is useful for people looking for examples or technical assistance with large or small restoration projects.*

http://www.twingroves.district96.k12.il.us/Wetlands/Wetlands.html
Kildeer Countryside Virtual Wetland Preserve. This on-line wetland, created by students in the Illinois school system, allows virtual visitors to examine lakes, ponds, bogs, fens, marshes, and other wetlands and learn about the amphibians, birds, insects, fish, mammals, insects, reptiles, and plants associated with each. Information on the benefits of wetlands and the history of their

destruction is included. *This site is useful for teachers who wish to teach about wetlands and the need to protect them.*

http://www.nmfs.noaa.gov/habitat/restoration/

NOAA Restoration Center. The Restoration Center has three main objectives: to restore degraded coastal and estuarine habitats; to advance the science underlying coastal habitat restoration and developing improved technology for archiving successful restoration; and to transfer restoration technology to the private sector, the public, and governmental agencies at the federal, state, and local levels. *This site provides links to projects funded under the NOAA Restoration Center.*

http://www.nwi.fws.gov/

***National Wetlands Inventory Center*.** This U.S. Fish and Wildlife Service site contains information on naturally occurring plants in North American wetlands. Many software programs are available for download, including Instream Flow Incremental Methodology, Habitat Evaluation Procedures, and Habitat Suitability Index Models. *The site would be useful for any person seeking technical information and statistics regarding wetlands and their reconstruction.*

http://www.wes.army.mil/el/emrrp/emrrp.html

Ecosystem Management and Restoration Research Program. The U.S. Army Corps of Engineers conducts research on restoration and enhancement of aquatic habitats, restoration and management of stream and riparian ecosystems, and other restoration-related topics. Descriptions of the research are available on this site. *This site would be useful for gaining information on technical restoration-related topics.*

http://limnologie.univ-lyon1.fr/

Riverine Wetlands: Succession and Restoration. This site has abstracts of scientific papers, books and book chapters, and Ph.D. dissertations on riverine wetland succession and restoration issues. *This site is useful for providing information on past research on wetlands and succession.*

http://www.sierraclub.org/wetlands/reports/wetland_restoration/states.asp

State Factsheets on Wetland Restoration. These on-line factsheets provide information on the usefulness of wetlands, state efforts to preserve wetlands, and what individuals can do to preserve wetlands in their state. *This site allows users to access information on wetlands restoration programs currently operating in a number of states.*

http://www.pwrc.usgs.gov/WLI/wris1.htm

Noxious, Alien and Invasive Plant Species. This report, on the U.S. Geological Survey's Web site, defines the different categories of problem plant species, identifies the threats to restoration success posed by these species, recommends methods of avoidance through planning and monitoring, and lists the species that can negatively affect the function and value of wetland restoration and enhancement projects. *This site provides practical methods for dealing with invasive species as well as links to other invasive species resources.*

http://www.anr.state.vt.us/champ/welcome.htm

The Lake Champlain Basin Program. The Lake Champlain Basin Program is a federal, state, and local initiative to restore and protect Lake Champlain. Information is available on the Lake Champlain Basin, the Lake Champlain Program, and local efforts to protect Lake Champlain. *This site provides information on the methods the Lake Champlain Basin Program is using to protect and restore the wetlands surrounding the lake.*

http://www.cce.cornell.edu/onondaga/fingerlakeslan/default.htm

Skaneateles Lake Restoration Project. Cornell Cooperative Extension of Onondaga County worked with a private landowner to restore a Skaneateles Lake, NY property. *This site provides detailed photographs of a lakeshore restoration project in progress.*

Let us know about your restoration-related web site. Please send relevant URLs to restorationupdate@tetratech-ffx.com.

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Information Resources

Water Drop Patch Project

Developed by USEPA and the Girl Scout Council of the Nation's Capitol.

Available at http://www.epa.gov/adopt/patch/, this 1999 Girl Scout leaders manual contains instructions for the activities required for a scout to earn the Water Drop Patch. The manual provides background information on wetlands and watersheds, nonpoint source pollution, and groundwater. It also explains how to conduct projects such as stream cleanups, building your own aquifer, and preventing personal pollution. Copies of this booklet can be ordered from the National Service Center for Environmental Publications, phone: (800) 490-9198. Comments or questions can be directed to Patricia Scott, USEPA, at (202) 260-1956.

County Five-Star Restoration Projects

Published by the National Association of Counties (NACo) under a cooperative agreement with USEPA.

This booklet includes background on watershed restoration, the essential components of EPA's Five-Star Program, and several case studies. The case studies in this guide describe how counties partnered with nonprofit organizations, businesses, parks departments, and conservation districts to accomplish successful Five-Star Restoration projects. The best management practices highlighted in this booklet are intended to serve as models for other restoration programs. For more information about NACo or for a copy of this report, visit the Web site http://www.naco.org, or contact NACo, 440 First Street, NW, Washington, DC 20001. Phone: (202) 393-6226.

Midwestern Ephemeral Wetlands Brochure

This full-color brochure, published in 2001, offers vivid pictures of the different types of ephemeral wetlands. The brochure also discusses wetland changes throughout the year, reasons why the wetlands are destroyed, the effects of altering nearby habitat, and steps that can be taken to protect the wetlands. The brochure is available for download from the web site http://herps.ipfw.edu/wetlands/ephemeral/Brochure.pdf.

Delaware's Riparian Buffers

This brochure describes the benefits of riparian buffers, including their ability to trap sediments, slow runoff, and provide wildlife habitat and recreational opportunities. This brochure also contains information on USDA conservation programs that provide technical and financial assistance to maintain riparian buffers. The brochure is available for download at http://www.dnrec.state.de.us/dnrec2000/ELibrary.asp. For more information contact the Division of Soil and Water Conservation, Department of Natural Resources and Environmental Control, 89 Kings Highway, Dover, Delaware 19901; phone: (302) 739-4403.

If you'd like to publicize the availability of relevant information resources, please send information to restorationupdate@tetratech-ffx.com.